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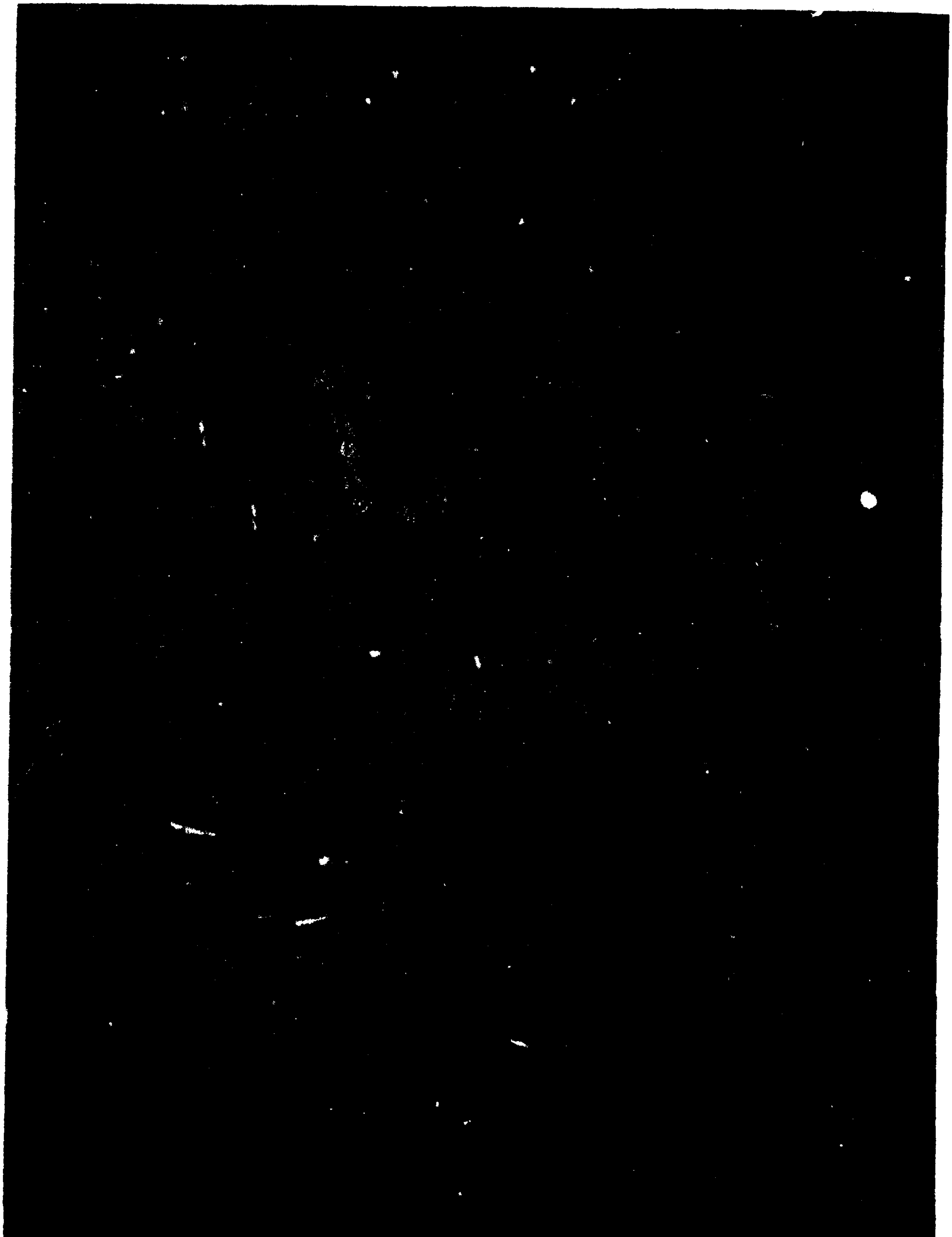

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report presents the results of the initial poststocking period covering a 12-month period from September 1977-August 1978. The data collected during this period were compiled in a format similar to that used for the baseline report. The compiled poststocking data were compared to the baseline conditions to determine if any substantial changes had occurred.

The baseline report concentrated on certain water quality factors for
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future data comparisons. These included concentration variability due to sampling depth, water quality variability between the five lake pools, phytoplankton and nutrient relationships, and seasonal variations in water quality. Each of these factors is reviewed in this report, and changes which have occurred compared to the baseline period are documented.

Since the baseline and poststocking periods cover different lengths of time, there exists a certain degree of seasonal bias between the two sets of data. This bias is accounted for in the report, and the baseline data are adjusted accordingly prior to making any comparisons.

Concerning variations with changing sampling depths, three parameters were found to have greater than a 5 percent variation in mean value at different depths. These parameters include organic nitrogen, biochemical oxygen demand (BOD), and volatile suspended solids.

The baseline report established a trend of increasing water quality proceeding from Lake Gatlin to the South pool of Lake Conway. During the poststocking period this trend changed somewhat in that the pools associated with Lake Conway exhibited similar water quality conditions compared to each other. However, Lake Gatlin continued to have the poorest water quality.

Comparing the poststocking water quality data to the baseline period, eight parameters were identified as having potentially significant changes in concentration levels. These parameters include total filterable phosphorus, total unfilterable phosphorus, organic nitrogen, carotenoids, volatile suspended solids, biochemical oxygen demand, turbidity, and chlorophyll-a.

Seasonal trends established in the baseline report were evaluated based on the poststocking data. Total filterable phosphorus trends appear to have changed in that concentrations are not affected appreciably on a seasonal basis. Temperature and chlorophyll-a followed similar seasonal patterns compared to the baseline period. Organic nitrogen data reported for August 1978 should be omitted because of analytical error. Even with this omission, seasonal trends for this parameter are discernible.

Generally, sediment quality data collected during the poststocking period were similar to the baseline results. Some discrepancies in the original baseline data were discovered for both lead and copper. A review of the originally recorded data showed the differentials to be due to a reporting error.

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PREFACE

The work described in this volume was performed in accordance with modification No. DACW39-76-C-0084-P005, Supplemental Agreement to Contract No. DACW39-76-C-0084, between the U. S. Army Engineer Waterways Experiment Station (WES), Vicksburg, Miss., and the Orange County Pollution Control Board, Orlando, Fla. The work was sponsored by the U. S. Army Engineer District, Jacksonville, and by the Office, Chief of Engineers, U. S. Army, Washington, D. C.

This is the sixth of seven volumes that constitute Report 2 of a series of reports documenting a Large-Scale Operations Management Test of use of the white amur for control of problem aquatic plants in Lake Conway, Fla. Report 1 of the series presents the results of the baseline studies of Lake Conway; Report 3 will present the second year poststocking results.

This volume was prepared by Mr. H. Douglas Miller, Canin/Miller Associates, Orlando, Fla. Messrs. Peter B. Ragsdale and James Adams, Orange County Pollution Control Department, Orlando, Fla., assisted in evaluating the chemical and biological data. Mr. Raymond T. Kaleel served as Project Manager, and Mr. Tom Sawicki, Assistant Director, Orange County Pollution Control Department, was the Project Director. Mr. John Bateman was the Director of the Orange County Pollution Control Department during the study.

The work was monitored by the WES Environmental Laboratory (EL), Dr. John Harrison, Chief. The study was under the general supervision of Mr. B. O. Benn, Chief, Environmental Systems Division, EL, and the direct supervision of Dr. T. D. Wright, Chief, Waterway Habitat and Monitoring Group. Mr. J. L. Decell was Manager of the Aquatic Plant Control Research Program, EL. Principal investigators at WES for the study were Messrs. John Lunz and Eugene Buglewicz and Dr. Drew Miller, all of ESD, EL.

Commanders and Directors of WES during the conduct of the study and preparation of the report were COL J. L. Cannon, CE, and COL Nelson P. Conover, CE. Technical Director was Mr. F. R. Brown.

This report should be cited as follows:

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CONTENTS

LARGE-SCALE OPERATIONS MANAGEMENT TEST OF USE OF THE WHITE AMUR FOR CONTROL OF PROBLEM AQUATIC PLANTS

FIRST YEAR POSTSTOCKING RESULTS

The Water and Sediment Quality of Lake Conway, Florida

PART I: INTRODUCTION

1. The U. S. Army Engineer Waterways Experiment Station (WES) has been conducting a Large-Scale Operations Management Test (LSOMT) since January 1976 for introducing the white amur (*Ctenopharyngodon idella*) into Lake Conway, Florida, to control the aquatic plant hydrilla (*Hydrilla verticillata*). Through Contract No. DACW39-76-C-0084 with WES, the Orange County Pollution Control Department has the responsibility for monitoring water and sediment quality and reporting the test results regularly to WES.

2. To define baseline conditions in Lake Conway prior to stocking it with the white amur, a 20-month testing period from January 1976-August 1977 was undertaken. A water and sediment quality baseline data report was later prepared and submitted to WES to document these baseline conditions. The information presented in that report will be used to document any changes which may occur in the water or sediment quality subsequent to stocking the lake with the white amur.

3. This report evaluates the first 12 months of the poststocking period, September 1977-August 1978. A major emphasis was placed on identifying changes that had occurred compared to the baseline conditions, and also in determining the significance of these changes. In the baseline report, it was hypothesized that certain water quality factors may be useful in detecting change when comparing prestocking and poststocking water quality data. These included data variations between the lake pools, seasonal changes in water and sediment quality, and, in particular, nutrient and productivity levels and community succession.

PART II: POSTSTOCKING DATA COMPILATION AND ANALYSIS, SEPTEMBER 1977-AUGUST 1978

Water Quality

Data compilation

4. For ease of comparison, the poststocking data have been compiled in a format similar to the baseline report. Table 1 lists the parameters that are frequently present in the water column in nondetectable levels. Table 2 lists those parameters which previously were found to have low variability due to changes in sampling depth. Tables 3-13 present mean values and standard deviations for the 12-month poststocking period for each of the 11 sampling stations. The mean value and standard deviation of the various parameters for the 11 stations combined are presented in Table 14.

5. The baseline report determined certain parameters to have large variability due to sampling depth: dissolved oxygen, turbidity, pH, and the chlorophyll-a pigment. Tables 15-18 present the poststocking data by sampling depth for these parameters.

6. The 11 sampling station locations remain unchanged from the baseline period as depicted in Figure 1. The baseline report noted a trend of varying water quality from one lake pool to another at a given time. Water quality was also found to be consistently best in the southern and middle pools of Lake Conway. Biochemical oxygen demand (BOD), chemical oxygen demand (COD), solids, and nutrient concentrations previously were found to increase in the eastern and western pools with a further increase occurring in Lake Gatlin. To determine if these trends continued during this poststocking period, Figures 2-7 are provided. These figures graphically present the mean value and standard deviation by sampling station for selected water quality parameters. The parameters include hardness, magnesium, organic nitrogen, BOD, total solids, and chlorophyll-a.

7. Emphasis was placed in the baseline report on determining some of the relationships between nutrient concentrations and the productivity

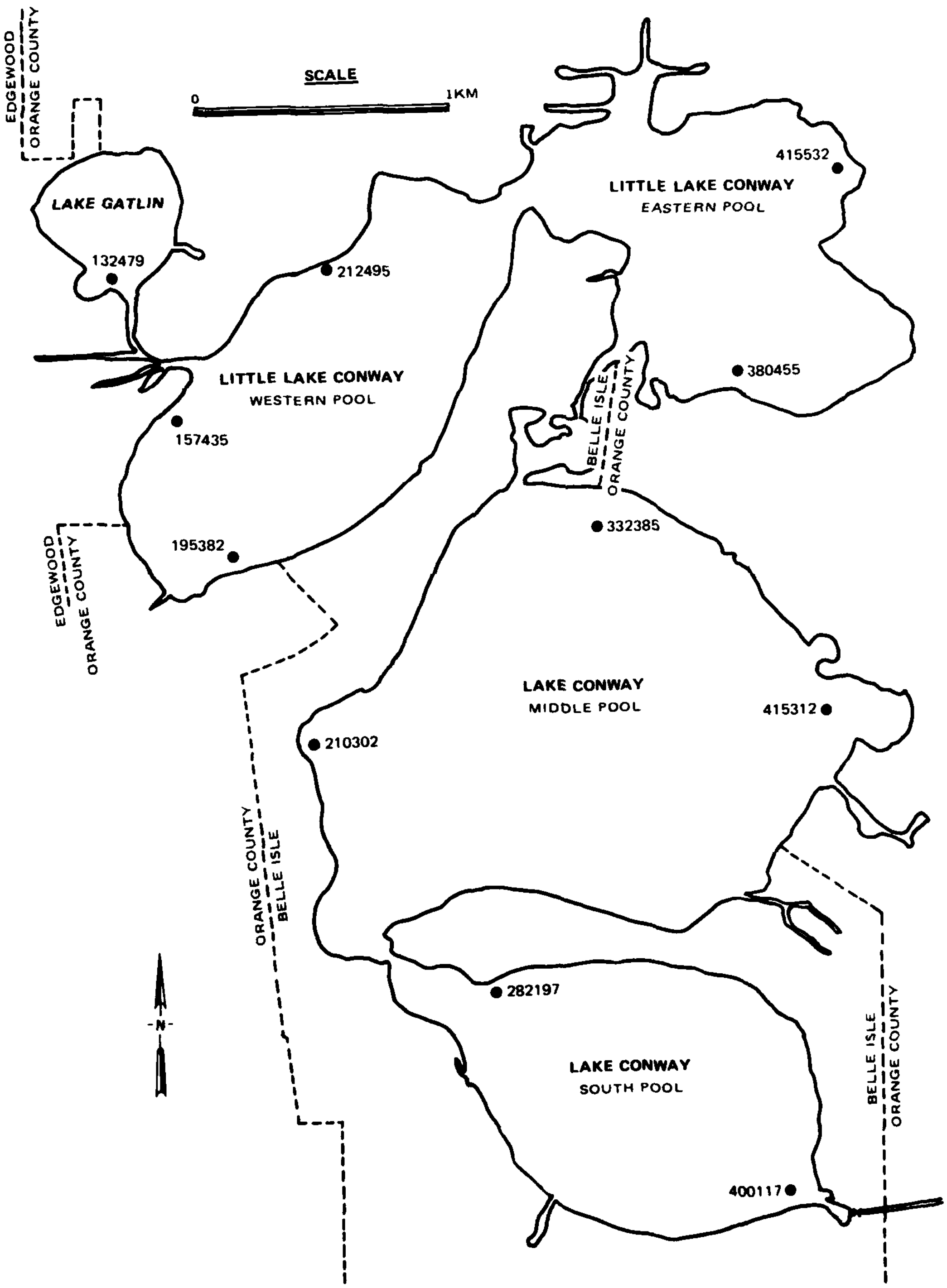

Figure 1. LSMOT sampling station locations

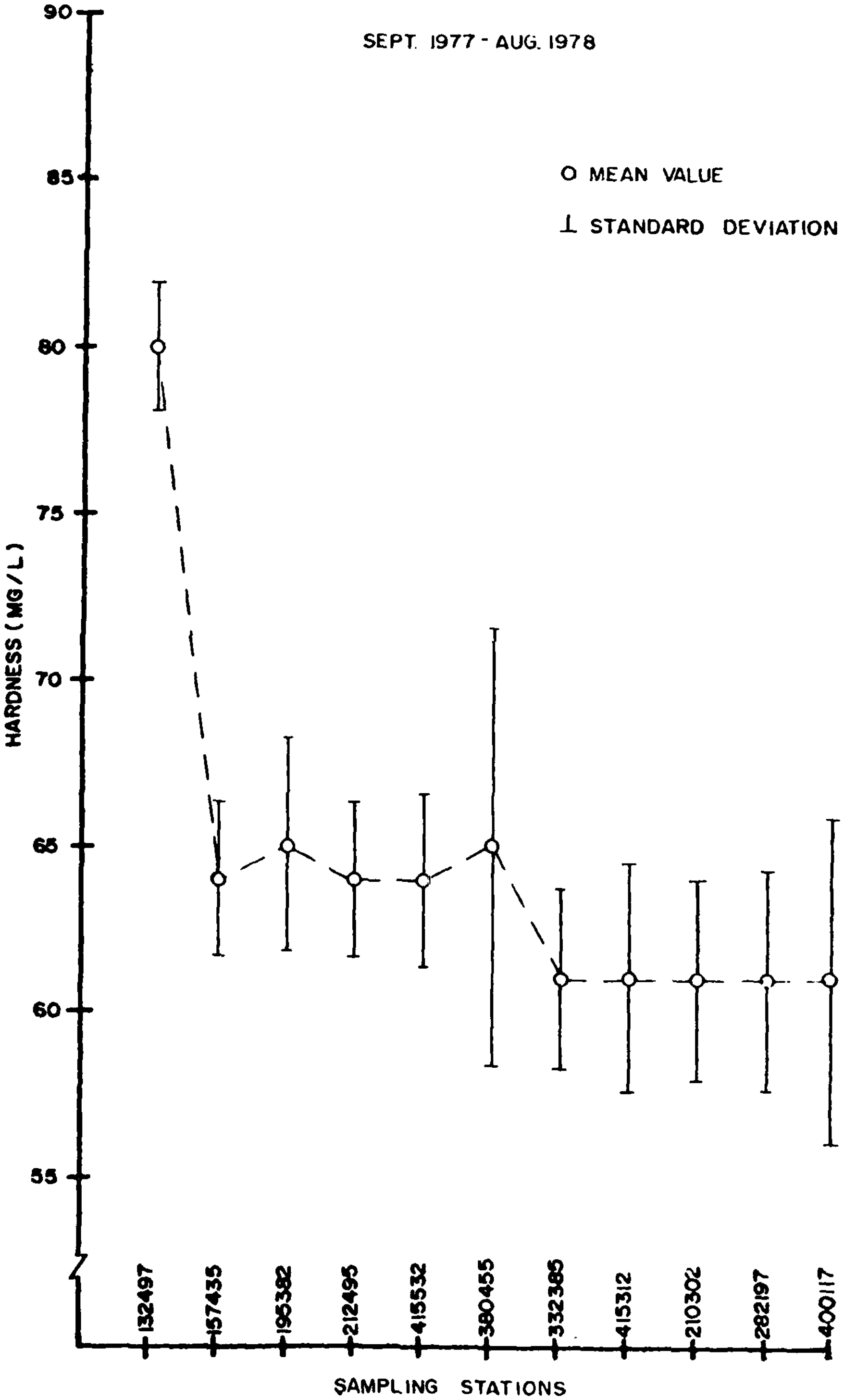

Figure 2. Trends in hardness concentrations

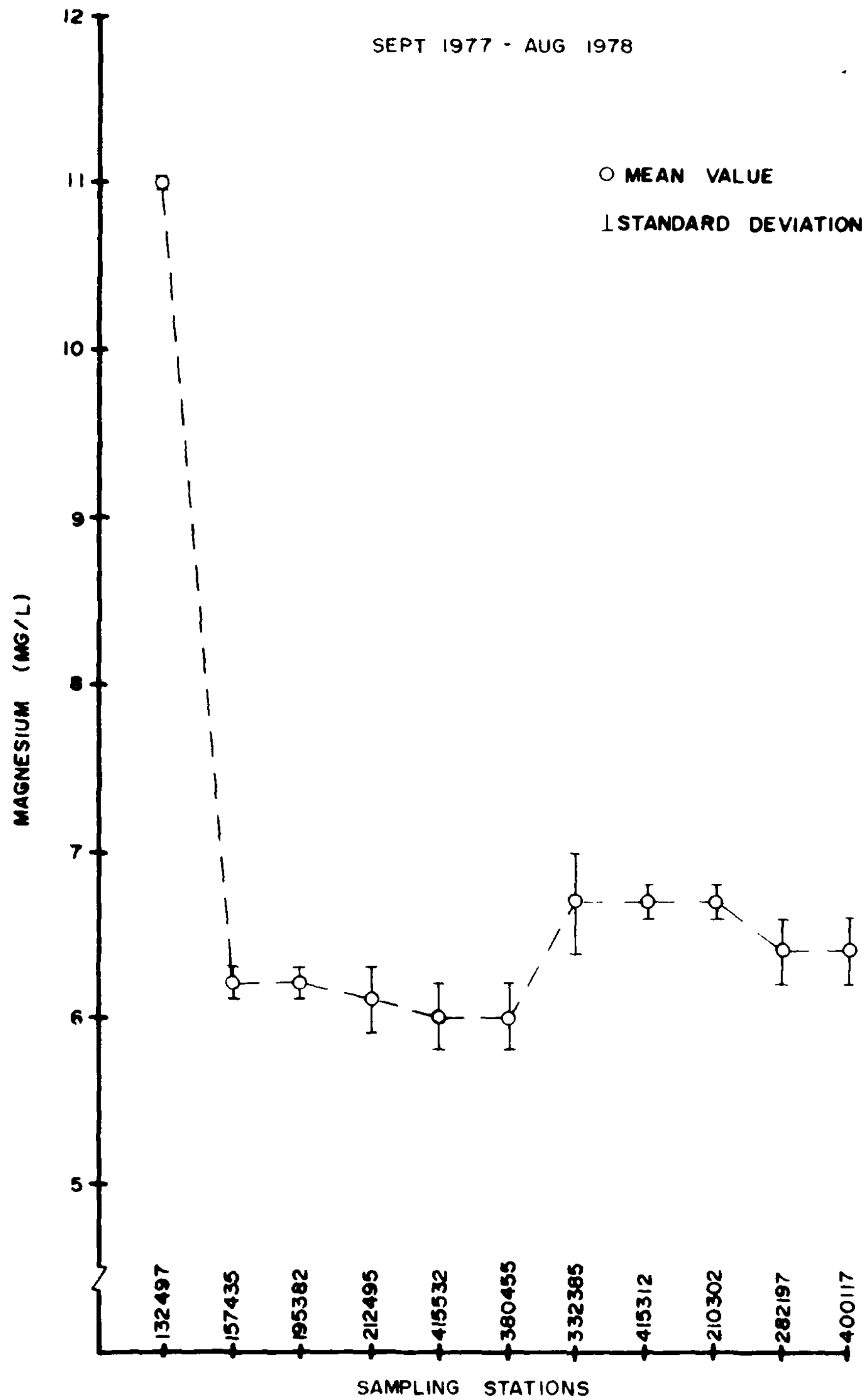

Figure 3. Trends in magnesium concentrations

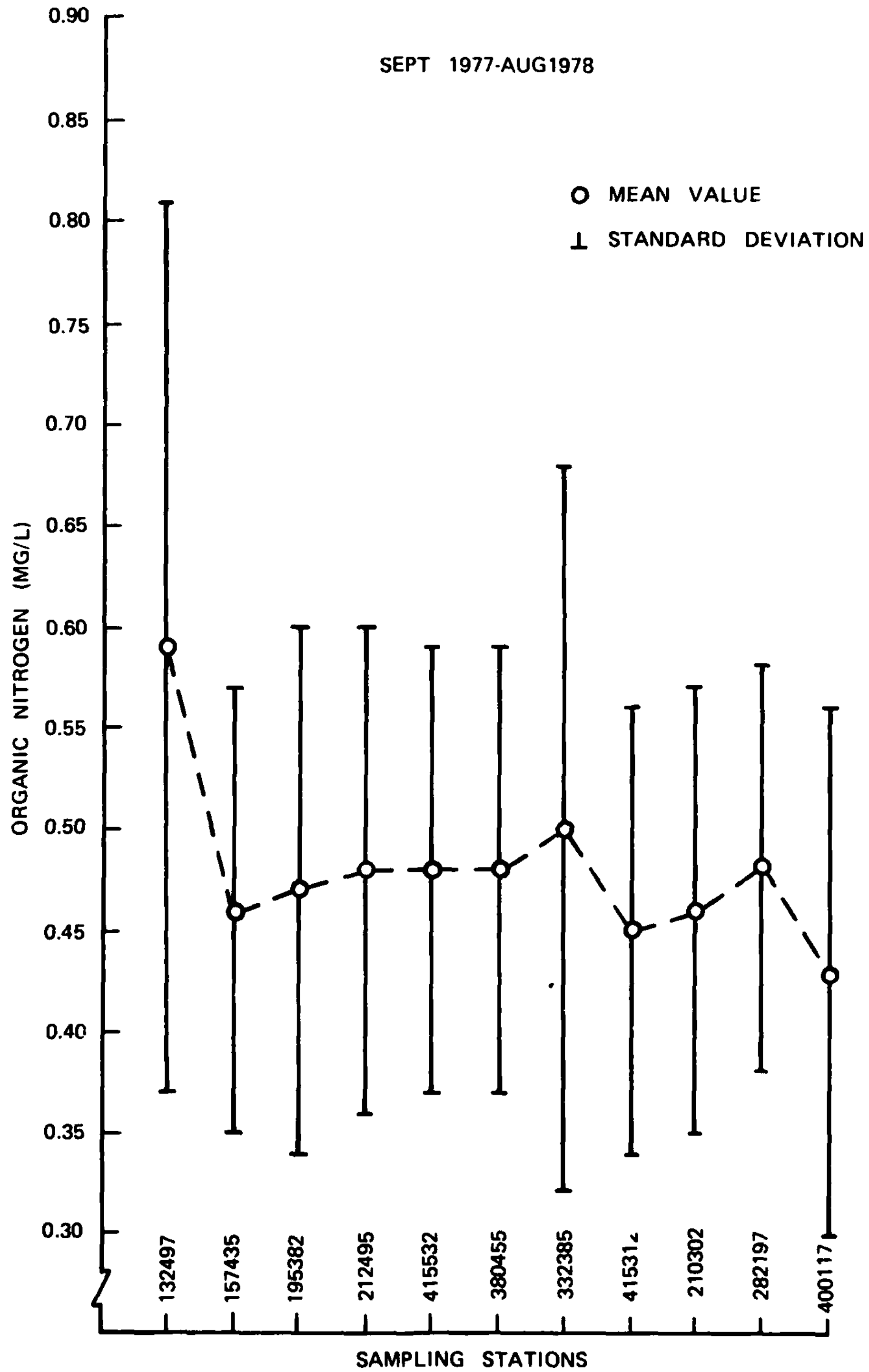

Figure 4. Trends in organic nitrogen concentrations

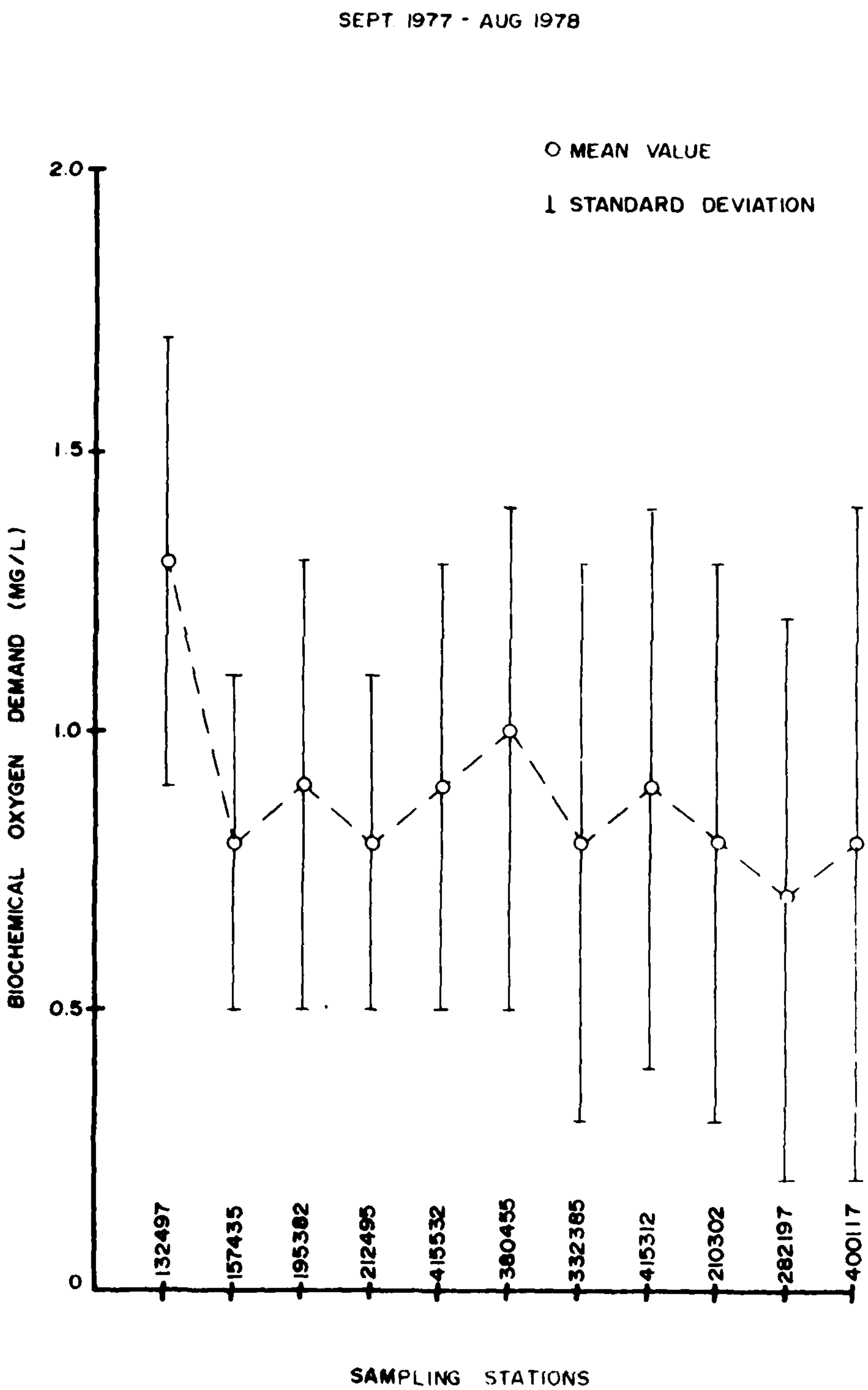

Figure 5. Trends in BOD concentrations

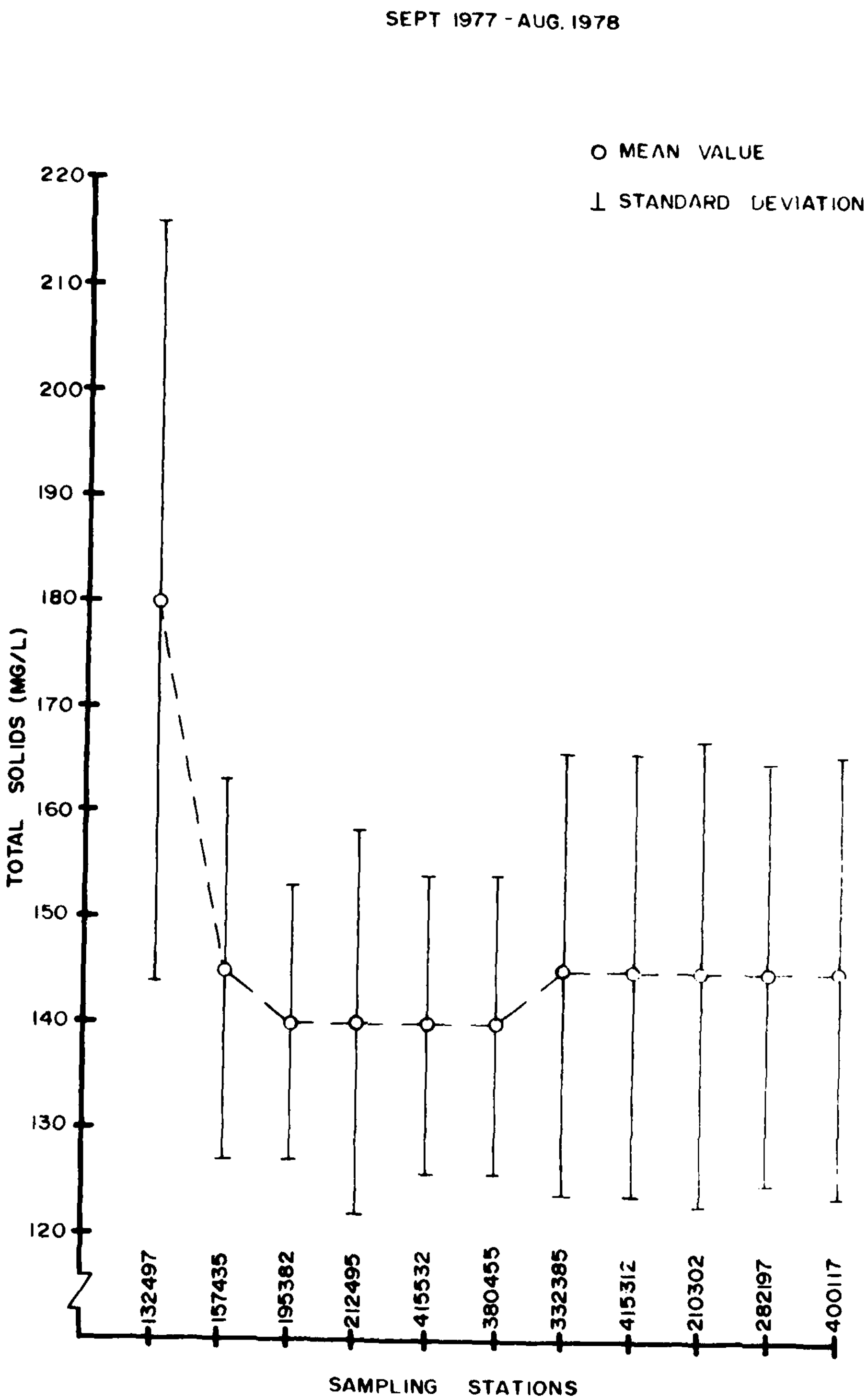

Figure 6. Trends in total solids concentrations

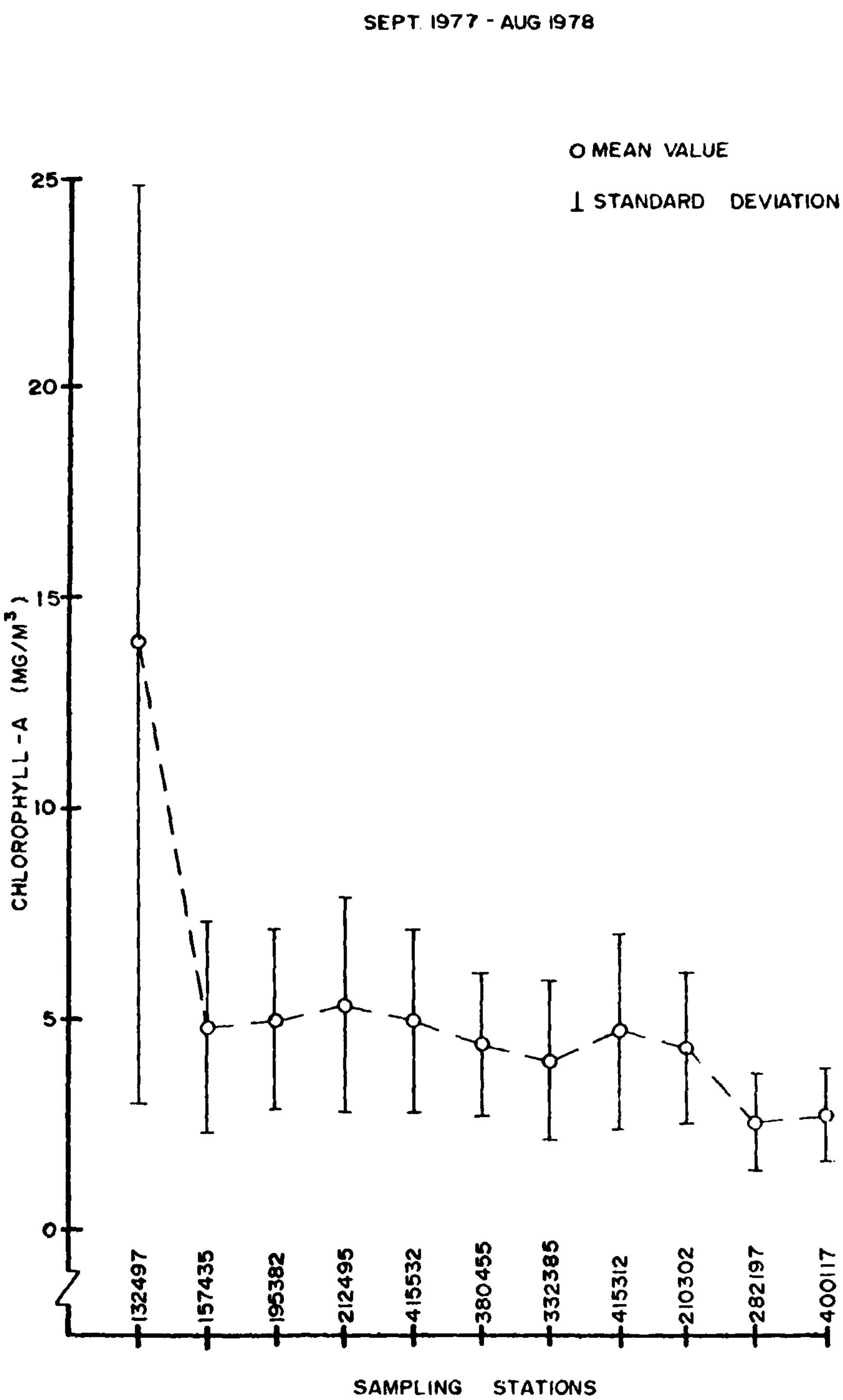

Figure 7. Trends in chlorophyll-a concentrations

of the various plant communities in the major pools. These relationships will be reviewed in this report to determine if changes have occurred subsequent to stocking Lake Conway with the white amur. The phytoplankton community was monitored utilizing pigment analysis for chlorophylls and carotenoids. Other plant communities were not monitored by the Orange County Pollution Control Department. However, relative importance of various components of the plant community was approximated from field observation. Figures 8 and 9 graphically display nitrate, organic nitrogen, and chlorophyll-a data collected during the poststocking period in Lake Gatlin and the South pool of Lake Conway, respectively.

8. Another water quality factor noted in the baseline report was seasonal trends in water quality. To determine if substantial changes are occurring on a seasonal basis, Figures 10-14 are provided. These figures present seasonal mean values of temperature, chlorophyll-a, total filterable phosphorus, and organic nitrogen for a selected station in each of the major pools.

9. The water quality data have been compiled in a similar format to the baseline report. The major difference in the poststocking period is the quantity of data collected. The baseline period included 20 months of sampling from January 1976-August 1977. The first poststocking period covers the subsequent 12 months, September 1977-August 1978. This time differential must be considered when evaluating the data since some degree of seasonal bias exists between the two sets of data.

Data analysis

10. Several parameters frequently were found to be in the nondetectable range during the baseline period. These parameters included nitrate nitrogen, nitrite nitrogen, ammonia nitrogen, orthophosphorus, copper, iron, and lead. As noted in Table 1, these same parameters frequently were found to be present in nondetectable levels during the first 12 months of the poststocking period. Some minor changes did occur during the poststocking period. Nitrite nitrogen and orthophosphorus did not exceed the detection limit at any of the stations, and

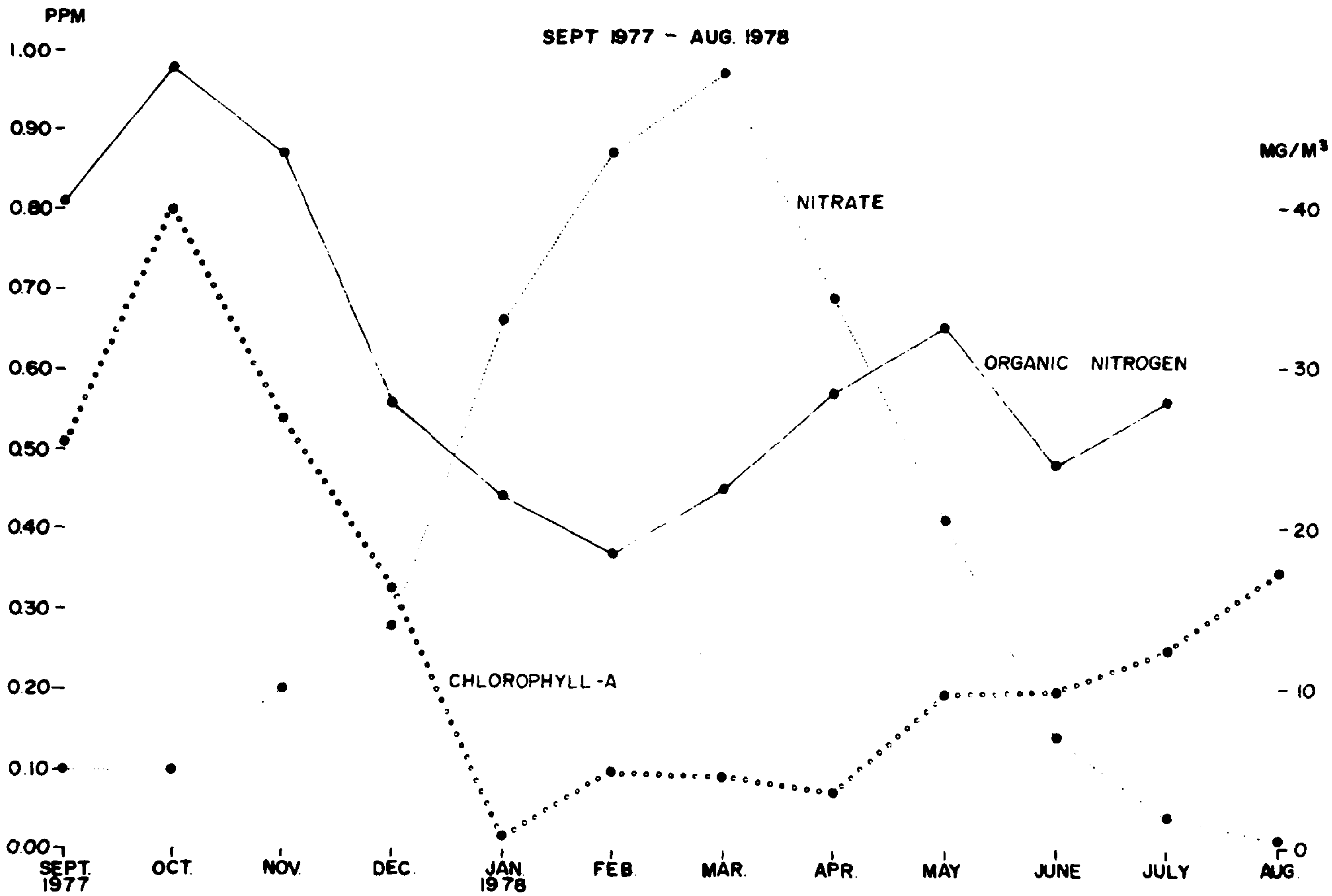

Figure 8. Trends in nitrogen and chlorophylla-a, Lake Gatlin

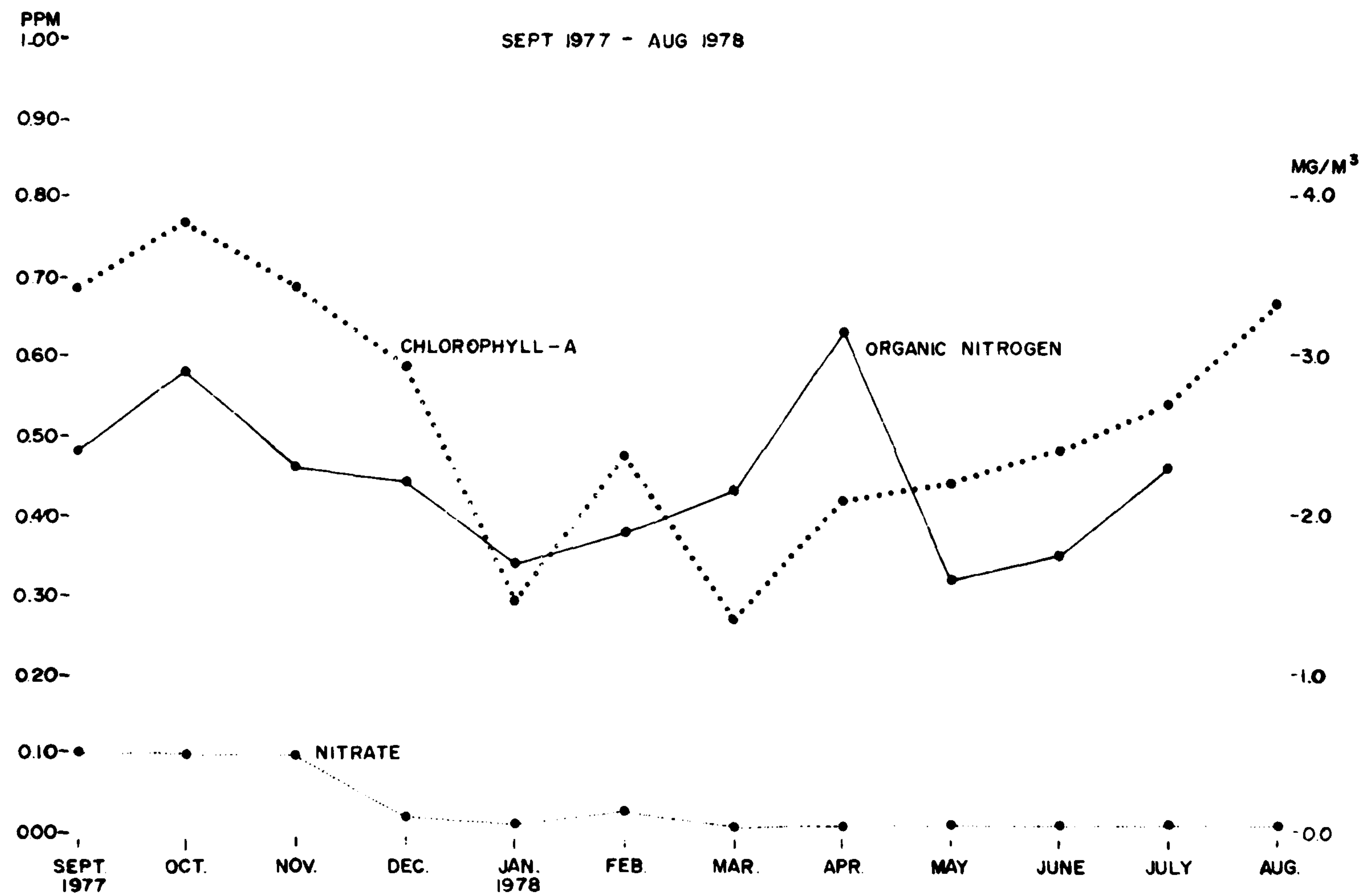

Figure 9. Trends in nitrogen and chlorophyll-a, Lake Conway South pool

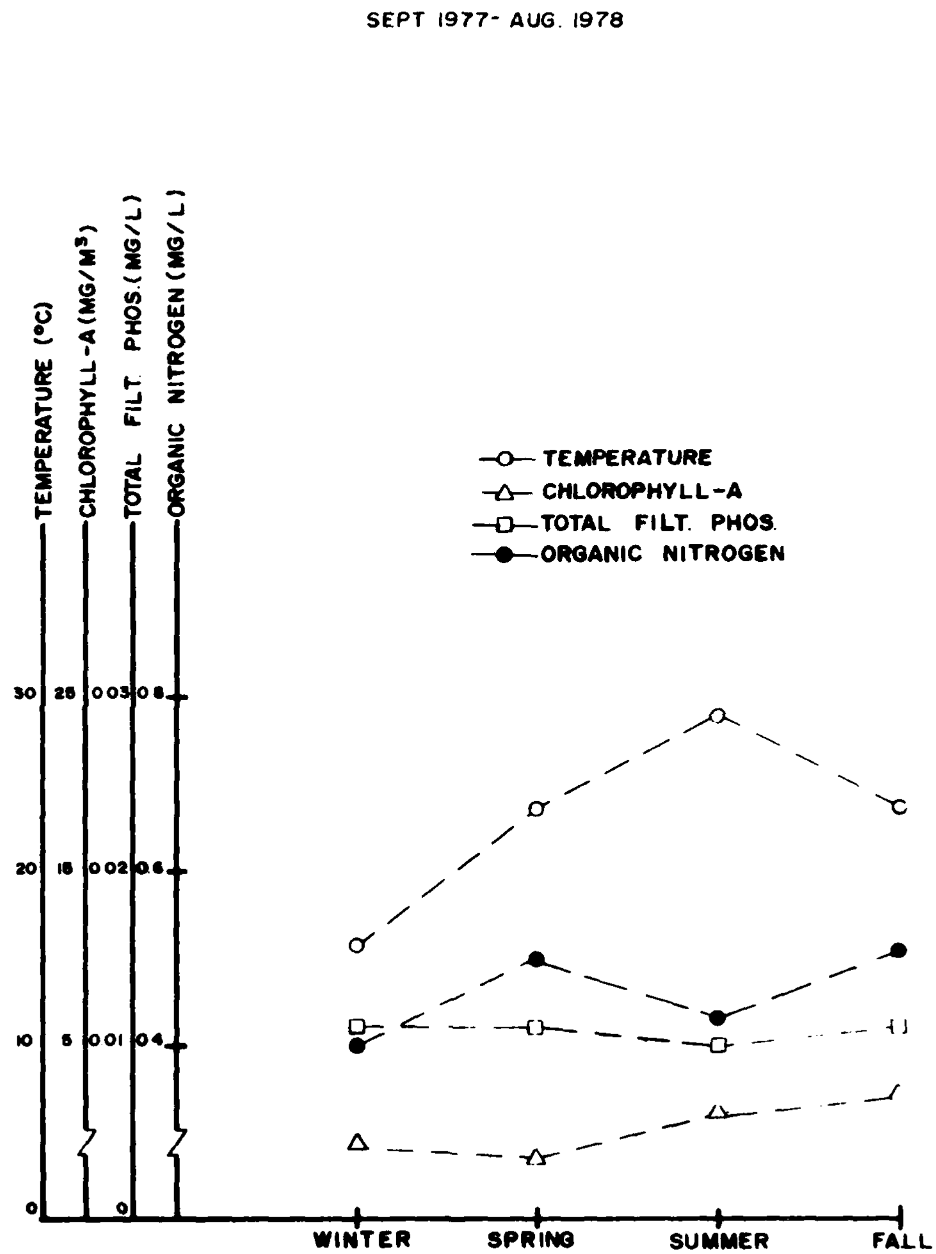

Figure 10. Correlation of selected parameters for sampling station 400117, Lake Conway South pool

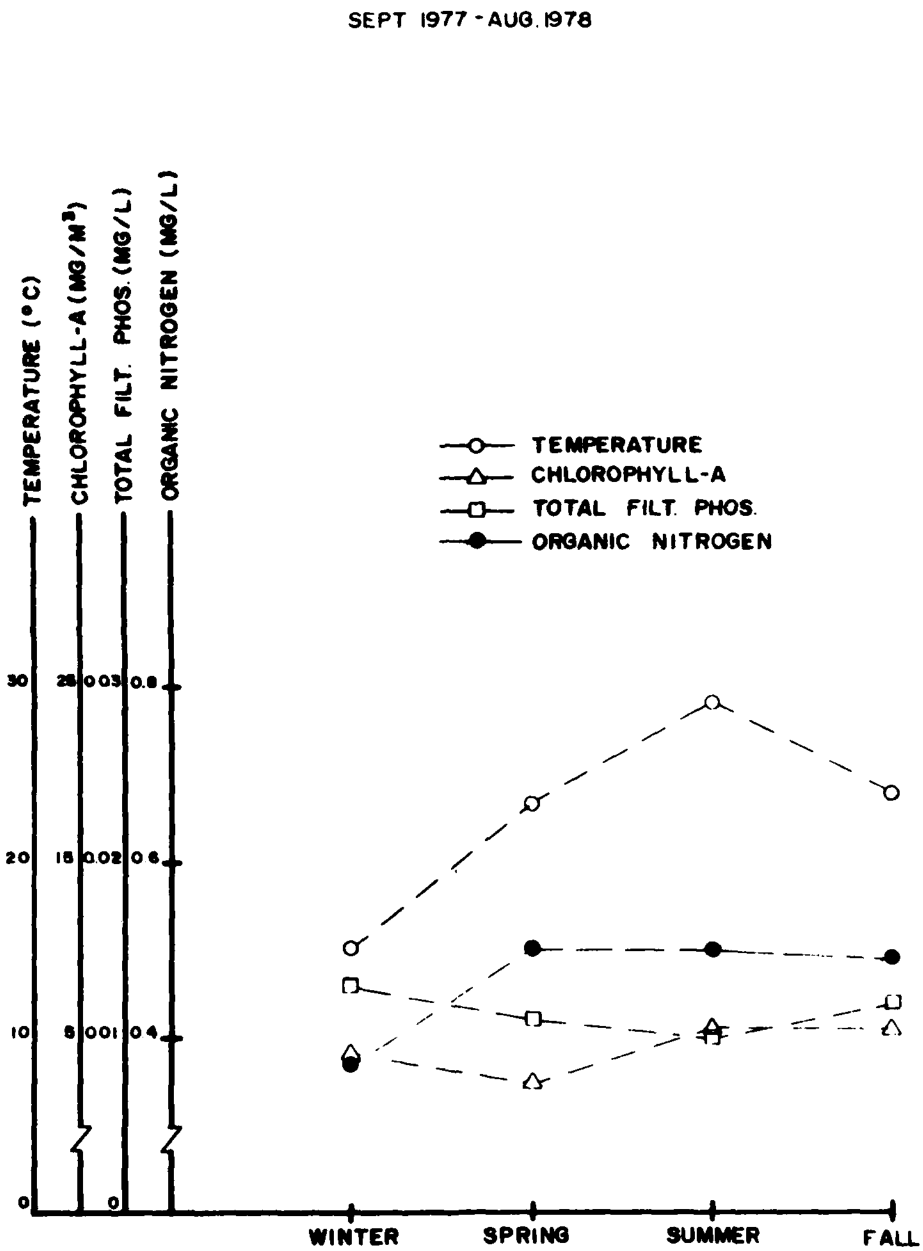

Figure 11. Correlation of selected parameters for sampling station 210302, Lake Conway Middle pool

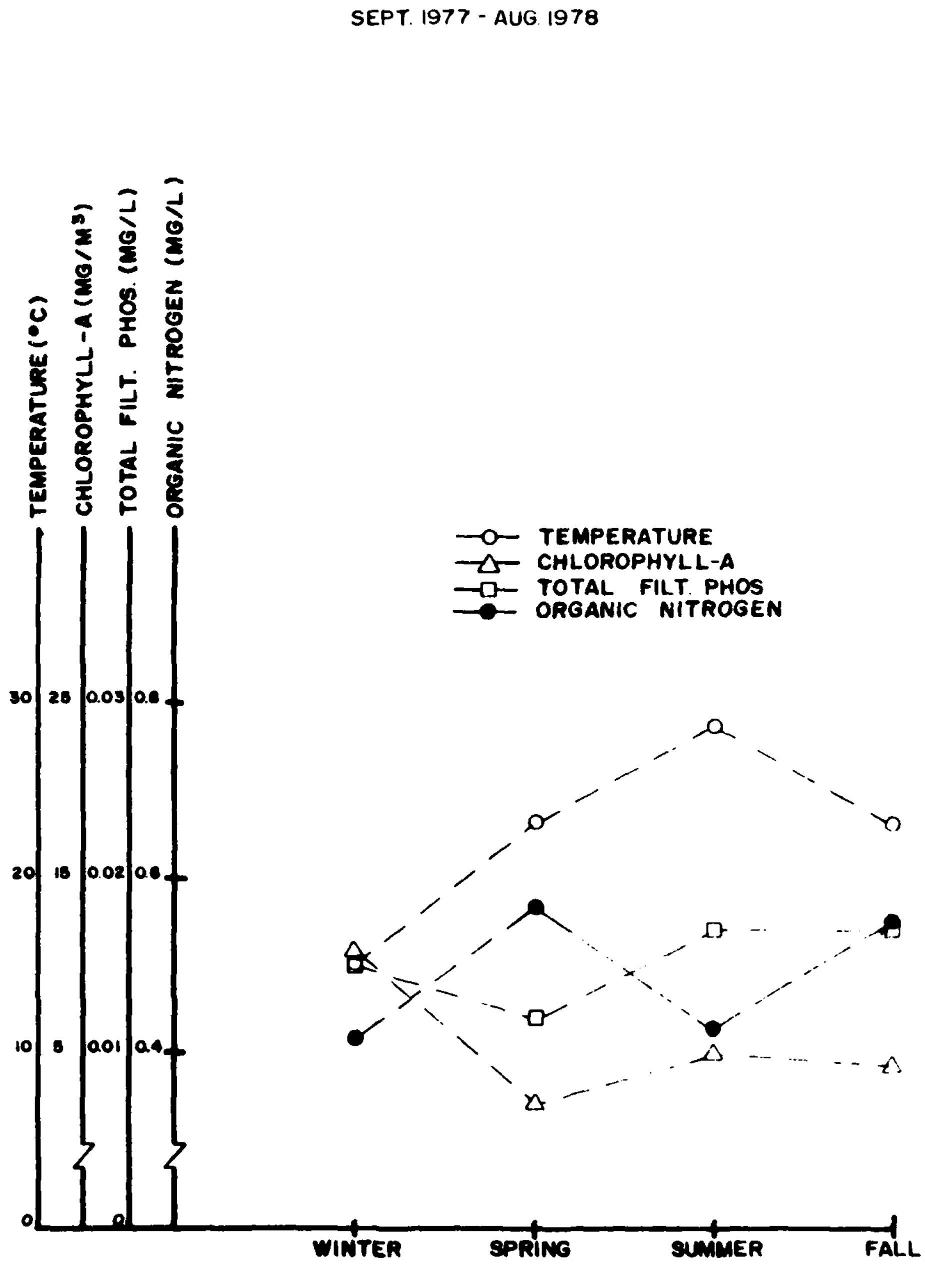

Figure 12. Correlation of selected parameters for sampling station 380455, Lake Conway East pool

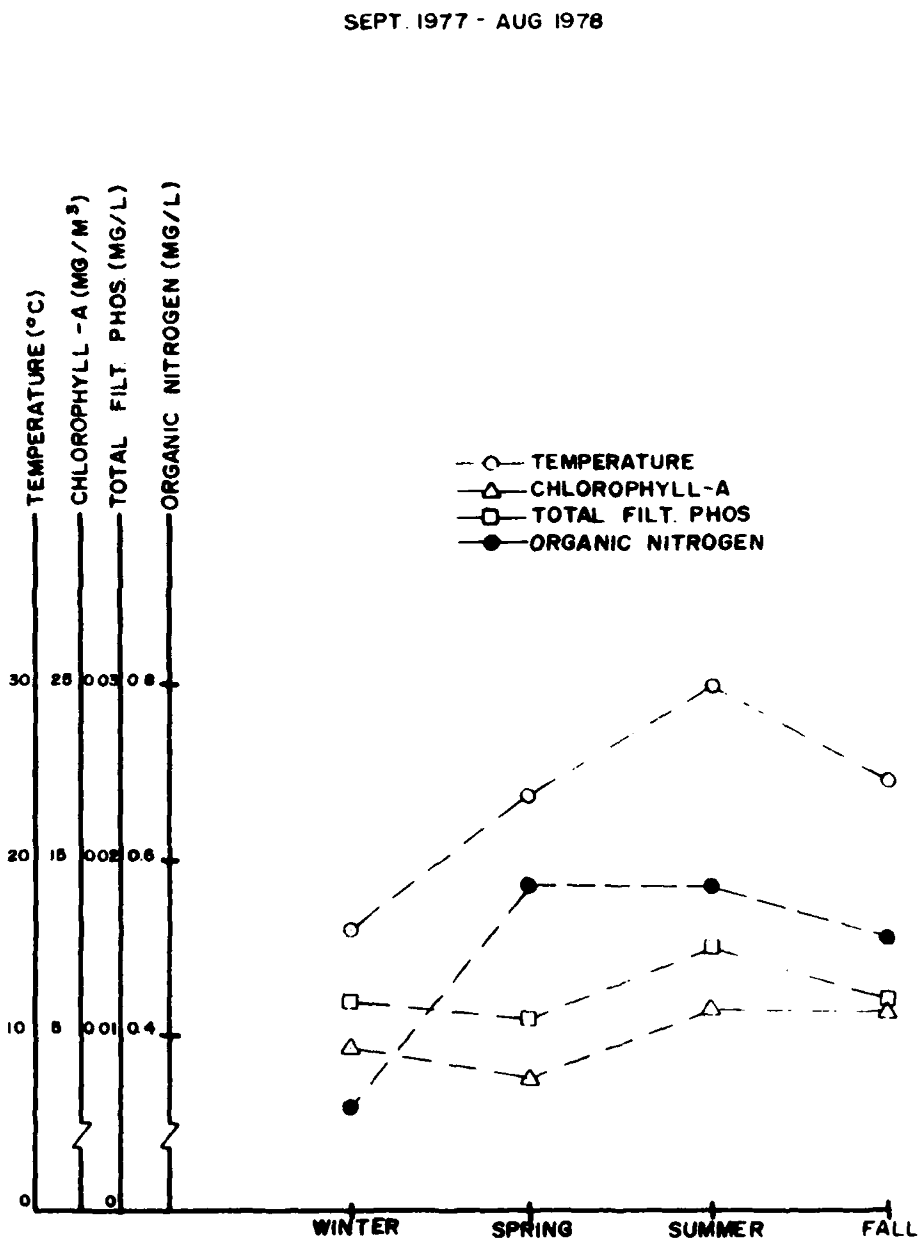

Figure 13. Correlation of selected parameters for sampling station 195382, Lake Conway West pool

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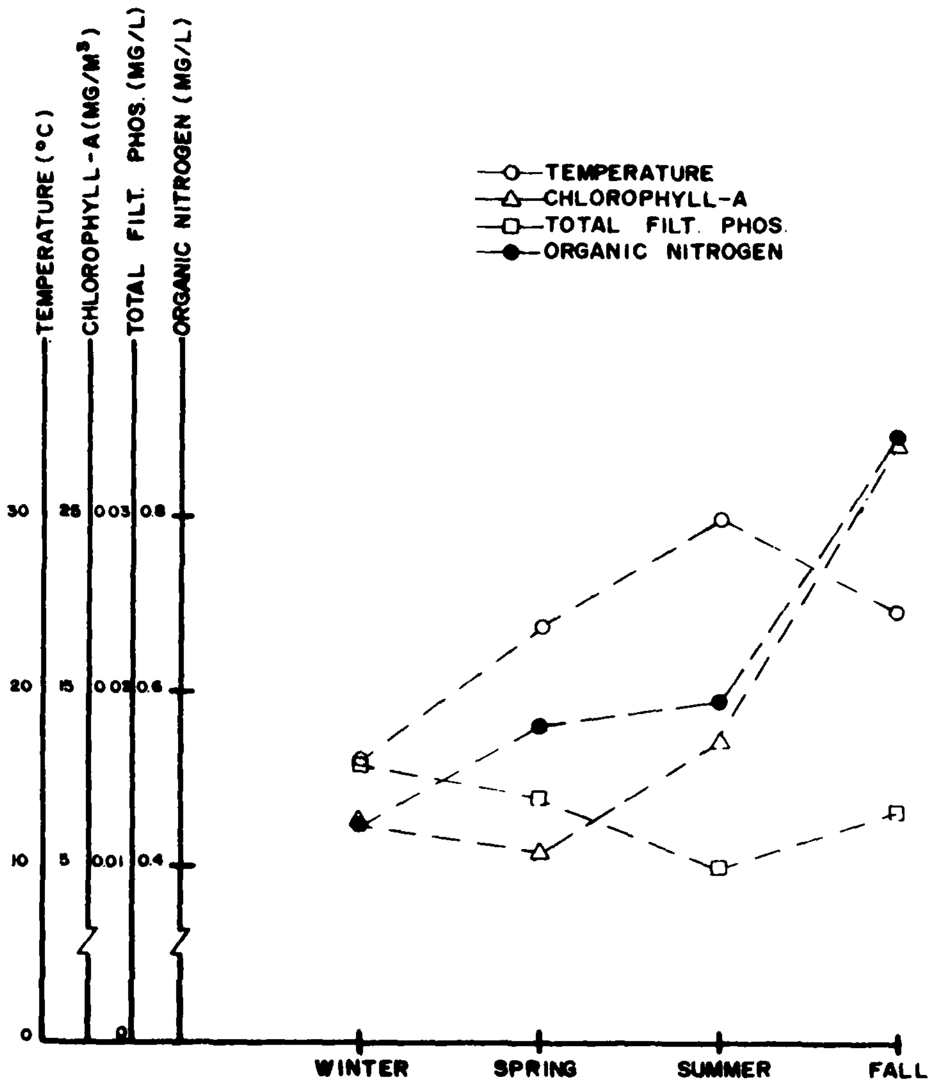

Figure 14. Correlation of selected parameters for sampling station 132497, Lake Gatlin

iron and lead concentrations exceeded the detection limit in only a few isolated cases.

11. Table 2 shows some changes compared to the baseline period in the percent variability over different sampling depths. Three parameters were found to have greater than a 5 percent variation in mean value at different depths. These parameters, organic nitrogen, BOD, and volatile suspended solids, are all present in relatively low concentrations in the water column. The variations are not considered substantial since these particular parameters are subject to large experimental error at the low levels being detected. Also, some changes should be expected since the quantity of data is less for the poststocking period, thereby enhancing the potential for increased data variations.

12. Certain changes in the mean value and standard deviation of some of the parameters are apparent when comparing Tables 3-13 to the baseline data. Phosphorus concentrations showed a decrease at all 11 sampling stations. Organic nitrogen values decreased at seven of the stations and increased slightly at four of the stations. Carotenoid concentrations decreased at eight of the sampling locations. Volatile suspended solids and BOD values also showed a decreasing trend throughout the lake system. The remaining parameters were present in concentrations similar to those previously detected during the baseline period.

13. To assess the magnitude of any data changes, it is first necessary to eliminate any bias that may be inherent in the data base. As previously noted, the poststocking period was a 12-month period, whereas the baseline period lasted for 20 months. Any parameters which are seasonally influenced, therefore, must be corrected for the gap in the two sets of data.

14. To correct for this potential bias, a random station is selected and the mean value for the September 1976-August 1977 period is compared to the entire baseline period mean value for that station. As an additional check, the baseline mean value is converted to a 2-year value by using the September-December 1976 monthly values twice. It is assumed that, if the two approaches produce a similar nonzero correction factor, then the baseline data are seasonally biased. If

substantially different factors are determined, further evaluations will be required to account for the potential bias.

15. Presented below are the eight parameters which previously were noted to have apparent changes in concentration levels compared to the baseline period. Included in this data presentation is the baseline mean value calculated for the randomly selected station (400117); the baseline adjusted mean value (24-month corrected value is in parentheses); and the corresponding seasonal bias determined from the adjusted mean values.

Parameter	Baseline Mean Value	Baseline Adjusted Mean Value	Seasonal Bias percent
Total filterable phosphorus, mg/ℓ	0.017	0.016 (0.017)	-6 (0)
Total unfilterable phosphorus, mg/ℓ	0.025	0.025 (0.025)	0 (0)
Organic nitrogen, mg/ℓ	0.49	0.50 (0.51)	+2 (+4)
Carotenoids, mg/m^3	3.1	2.3 (3.3)	-26 (+6)
Volatile suspended solids, mg/ℓ	1.7	1.7 (1.7)	0 (0)
Turbidity, FTU	1.4	1.5 (1.5)	+7 (+7)
Biochemical oxygen demand, mg/ℓ	1.1	1.2 (1.2)	+9 (+9)
Chlorophyll-a, mg/m^3	4.2	3.7 (5.1)	-12 (+21)

16. The information presented above shows that some degree of seasonal bias must be accounted for in evaluating several of these parameters. Four parameters, total filterable phosphorus, total unfilterable phosphorus, organic nitrogen, and volatile suspended solids, are not greatly affected by the difference in the two sets of data. Biochemical oxygen demand and turbidity values are marginally affected, 9 percent and 7 percent, respectively. The remaining two parameters show discrepancies in the two adjusted mean values, thereby making it impossible to determine, using this approach, if a seasonal bias does exist in the data base for these parameters. In reviewing the baseline data, it is apparent that the carotenoid and chlorophyll-a levels throughout the lake system were higher from January-August 1976 than they were from

January-August 1977. Therefore, the discrepancy in the two correction factors is due more to an annual differential than it is to a seasonal change.

17. It appears for purposes of this analysis that the September 1976-August 1977 adjusted mean value should be used as the basis for applying a correction factor to both the carotenoid and chlorophyll-a baseline values. This period represents the 12-month interval immediately prior to the 12-month poststocking period, and the quantity of data obtained during the two periods is the same. For the other six parameters, an average of the two calculated correction factors will be used to evaluate any apparent changes in concentrations which occurred during the poststocking period. The following information lists the seasonal bias determined for each of the eight parameters being considered. The corresponding correction factor should be applied to the baseline data prior to comparing the baseline data to the poststocking data.

Parameter	Seasonal Bias percent	Correction Factor*
Total filterable phosphorus	-3	0.97
Total unfilterable phosphorus	0	1.00
Organic nitrogen	+3	1.03
Carotenoids	-26	0.74
Volatile suspended solids	0	1.00
Biochemical oxygen demand	+9	1.09
Turbidity	+7	1.07
Chlorophyll-a	-12	0.88

* Multiply correction factor by baseline mean value to determine adjusted baseline mean value.

18. To further evaluate these eight water quality parameters, the adjusted baseline mean values for the 11 stations combined are presented below along with the corresponding poststocking data (Table 14).

Parameter	Baseline Mean Value	Adjusted Baseline Mean Value	Poststocking Mean Value	Net Change percent
Total filterable phosphorus, mg/ℓ	0.017	0.0165	0.012	-24
Total unfilterable phosphorus, mg/ℓ	0.025	0.025	0.016	-36
Organic nitrogen, mg/ℓ	0.50	0.515	0.50	-3
Carotenoids, mg/m^3	4.2	3.1	3.3	+6
Volatile suspended solids, mg/ℓ	1.8	1.8	1.2	-33
Biochemical oxygen demand, mg/ℓ	1.3	1.4	0.9	-36
Turbidity, FTU	1.5	1.6	1.3	-19
Chlorophyll-a, mg/m^3	6.3	5.5	5.9	+7

19. Six of the eight parameters exhibit a decrease in concentration levels when comparing the combined data. Large percentage decreases are noted for total filterable phosphorus, total unfilterable phosphorus, volatile suspended solids, biochemical oxygen demand, and turbidity. Organic nitrogen concentrations are nearly identical to the baseline period. Of particular interest are the carotenoid and chlorophyll-a data. After applying the correction factor to each, an apparent increase in these two parameters has occurred. The increase in chlorophyll-a and carotenoids does not appear to account for the decrease in filterable phosphorus because the unfiltered fraction decreased concomitantly. Additionally, organic nitrogen concentrations did not increase but, rather, remained unchanged. In order to further evaluate these changes in concentrations of nutrients, the water quality data will have to be compared to data collected on the macrophyte and periphyton communities.

20. Although the net percent change in concentration levels for certain parameters appears to be large, it should be emphasized that the levels being measured are low, and the measured differences are actually small. For example, in the case of biochemical oxygen demand, the baseline adjusted mean value for the 11 stations combined is 1.4 mg/ℓ, whereas the poststocking value is 0.9 mg/ℓ. The net percent change is

-36 percent, and the concentration differential is 0.5 mg/ℓ. Due to the nature of the BOD test, it is extremely difficult to accurately detect a differential this small. Therefore, the rather large percent decrease should not be construed necessarily as a substantial change but, rather, a possible downward trend. A similar analogy can be applied to the remaining seven parameters presented previously.

21. The data differences which have occurred should be viewed as potential trends which should be further evaluated in subsequent testing periods. The potential trends which have surfaced during this testing period are summarized below:

- a. Filterable and unfilterable phosphorus concentrations are decreasing.
- b. Organic nitrogen, carotenoid, and chlorophyll-a levels are relatively unchanged.
- c. Volatile suspended solids concentrations are decreasing substantially.
- d. Biochemical oxygen demand concentrations are decreasing substantially.
- e. Turbidity concentrations are slightly decreasing.

It is emphasized that specific causes of observed water quality changes cannot be identified. Factors possibly contributing to these changes include normal annual variation and the introduction of the white amur.

22. Figures 2-7 were presented in the baseline report to depict apparent trends associated with the lake pools. These figures are also presented in this report based on the poststocking data. Figures 2 and 3 are very similar to the baseline period in that the highest parameter concentrations are associated with Lake Gatlin, and there is a tendency for decreasing concentrations in the remaining pools. One noticeable difference is the overall decrease in the standard deviation compared to the baseline period.

23. Figure 4 shows some variations from the baseline trend. Previously, higher organic nitrogen values were associated with Lake Gatlin and Little Lake Conway. During the poststocking period Lake Gatlin remained high but the remainder of the stations were similar. The standard deviations tended to increase at most of the stations, indicating

a trend toward more variable organic nitrogen levels. Figure 5 is very similar to Figure 4 in that the highest BOD concentrations are in Lake Gatlin, and the remaining stations have approximately the same BOD levels.

24. Figures 6 and 7 depict the trend of decreasing parameter concentrations as one proceeds from Lake Gatlin to the South pool of Lake Conway. During the poststocking period, this trend changed slightly. The highest concentrations were again associated with Lake Gatlin; however, fairly stable values were detected in the remaining pools. This is similar to the trend noted in Figures 4 and 5.

25. Figure 8 graphically presents nitrate nitrogen, organic nitrogen, and chlorophyll-a data for Lake Gatlin. Very similar trends compared to the baseline period are apparent. Beginning in December 1977, the minimum detectable limits of nitrate were changed from 0.10 mg/ℓ to 0.01 mg/ℓ. Figures 8 and 9 show the seasonal trends of nitrate, organic nitrogen, and chlorophyll-a for Lake Gatlin (132497) and the South pool (400117). The phytoplankton in Lake Gatlin is a major component of the total plant community. Chlorophyll-a averaged approximately 13 mg/ℓ for the prestocking and poststocking time periods. Poststocking data in Figure 8 show similar trends to those reported in the baseline report for Lake Gatlin. During summer and fall, when the phytoplankton community is actively growing, organic nitrogen and chlorophyll-a increase in concentration with a concomitant decrease in nitrate. The opposite is true during the winter months, i.e. as the phytoplankton community declines, chlorophyll-a and organic nitrogen concentrations decrease with a concomitant increase in nitrate concentration throughout the water column. Nitrate concentrations show a greater increase during the winter months than occurred previously during the baseline period. Levels reached as high as 1 mg/ℓ, whereas previously the maximum mean values did not exceed 0.7 mg/ℓ. Again, water quality data from Lake Gatlin will have to be interpreted with productivity data of the macrophyte and periphyton communities for further interpretation.

26. Figure 9 presents information similar to Figure 8, but for the South pool of Lake Conway. Nitrate levels are extremely low

throughout the testing period, never exceeding a mean value of 0.1 mg/ℓ. Unlike Lake Gatlin, both organic nitrogen and chlorophyll-a concentrations are generally lower for the poststocking period. By comparison, the plant community in the South pool is dominated by the macrophytes and associated epiphytes. As a result, prestocking and poststocking period chlorophyll-a concentrations averaged approximately 5.0 mg/ℓ, indicating a sparse phytoplankton community. Figure 9 exhibits similar trends as reported in the baseline report. Summer-fall chlorophyll-a and organic nitrogen maxima give way to winter minimum concentrations. It is speculated that the rapid uptake of nitrates by macrophytes, epiphytes, and phytoplankton keeps nitrate levels low, giving the appearance of a steady-state system. This is generally the case for the remaining stations.

27. Figures 10-14 present seasonal trends for four water quality parameters: temperature, chlorophyll-a, total filterable phosphorus, and organic nitrogen. Each of the figures is based on data from one of the five major lake pools. Generally, temperature and chlorophyll-a trends are similar to the baseline period. Chlorophyll-a levels tend to be lower in the winter and spring and increase during the summer and fall months. Total filterable phosphorus trends appear to have changed. Previously, a distinct minimum occurred during the summer; however, during the poststocking period, a trend toward relatively stable values throughout the year occurred. Also, in two of the pools, the highest concentrations were detected during the summer. Since the total filterable phosphorus levels decreased during this period, the stable trend may represent a base concentration level for this parameter. The final parameter, organic nitrogen, also developed a somewhat different trend during this period. Organic nitrogen data for August 1978 was eliminated because of a testing accident. This influenced the summer data point on each of the five figures.

28. In general, the water quality analyses provided herein have shown that some changes have occurred compared to the baseline period. Seasonal variations have also been identified, as well as concentration trends from one lake pool to another.

Sediment Quality

Data compilation

29. Sediment data were collected on two occasions during the poststocking period at each of the 11 sampling stations. These data are presented in their entirety in Table 19. The data are also compiled in the form of mean value, standard deviation, and range in Table 20.

Data analysis

30. The baseline report noted that nitrogen and phosphorus concentrations varied somewhat from station to station but in an apparently random fashion. A similar trend occurred during this poststocking period. The range of values detected are nearly the same for each parameter compared to the baseline data. The total nitrogen mean value for the 11 stations combined increased from 2.7 to 3.3 mg/g, and the standard deviation increased by a similar amount. The total phosphorus mean value decreased from 0.44 to 0.37 mg/g.

31. Chemical oxygen demand and iron concentrations did not appear to change substantially. The mean value for COD increased less than 10 percent, from 89 to 95 mg/g. In the case of iron, a slightly greater than 10 percent increase occurred, from 727 to 817 μg/g. The standard deviation increased also.

32. One additional parameter, manganese, was added during this poststocking period. The mean value and standard deviation were calculated to be 23 μg/g, with a range of values from 5 to 66 μg/g.

Aquatic Plant Data Presentation

33. Table 21 presents the raw data collected during this 12-month period relating to nutrient, organic, and other chemical contents of the various aquatic plants identified in the Lake Conway chain. As in the baseline report, these data are presented for use by the University of Florida in assessing the overall nutrient budget of the lake system.

PART III: CONCLUSIONS

34. Water quality parameters previously found to be present in the nondetectable range were similarly undetected during the poststocking period. Minor changes were noted concerning the frequency in which detectable values occurred.

35. Three parameters were found to have greater than a 5 percent variation in mean value at different sampling depths at one randomly selected station. These parameters included organic nitrogen, BOD, and volatile suspended solids, all of which are present in relatively low concentrations. These variations are at least in part due to the smaller quantity of data collected during this poststocking period.

36. Comparing the mean values of the two testing periods for each of the 11 sampling stations, several differences were noted. Phosphorus concentrations decreased at all stations, organic nitrogen values decreased at seven stations, and carotenoid concentrations decreased at eight stations. Volatile suspended solids and BOD concentrations also showed general decreases throughout the lake chain.

37. After correction for an inherent seasonal bias between the two data sets, eight selected parameters were compared. Poststocking mean concentration of biochemical oxygen demand, total unfiltered phosphorus, volatile suspended solids, total filterable phosphorus, and turbidity showed a decrease from mean baseline concentrations by 19 percent or more. Photosynthetic pigments chlorophyll-a and carotenoids showed a slight increase over mean baseline concentrations. Mean organic nitrogen concentration changed by a negligible amount.

38. Previously, a trend of decreasing water quality proceeding from the South pool of Lake Conway to Lake Gatlin was established. This trend appeared to change during the poststocking period in that the South, Middle, East, and West pools showed a tendency toward similar water quality conditions. However, Lake Gatlin continued to exhibit the poorest water quality conditions.

39. Data collected during this poststocking time frame indicate that the excellent water quality in Lake Conway has been maintained.

The lake system has remained in a condition suitable for recreational activities with no apparent use of chemicals and herbicides. The ecosystem associated with the four major pools of Lake Conway appears to exhibit a degree of stability not seen in Lake Gatlin.

40. Sediment quality data were generally similar to the baseline period. There were no substantial changes detected.

Table 1

Parameters Present in Amounts Too Small to Register on the Measuring Device

Parameter	Detectable Level, mg/ℓ
Nitrate nitrogen* (N)	0.100
Nitrite nitrogen (N)	0.010
Ammonia nitrogen* (N)	0.050
Orthophosphorus (P)	0.010
Copper* (Cu)	0.010
Iron** (Fe)	0.050
Lead** (Pb)	0.010

* Occasionally measured in amounts exceeding detectable level.

** Rarely measured in amounts exceeding detectable level.

Table 2

Parameters Previously Found to Have Low Variability Over Changing Depths

Parameters	Variability Sep 1977-Aug 1978 percent
Temperature	1
Conductivity	1
Alkalinity	2
Hardness	4
Calcium	5
Sodium	1
Potassium	1
Magnesium	0
Organic nitrogen	6
BOD	8
COD	5
Total solids	2
Total phosphorus (filtered)	4
Total phosphorus (unfiltered)	5
Volatile suspended solids	17
Carotenoids	5

Table 3

Poststocking Data Compilation

Sampling Station 400117

Parameter	Mean Value	Standard Deviation
Temperature	22.9°C	5.5°C
Conductivity	220 µmho/cm	7 µmho/cm
Alkalinity	33 mg/ℓ	1.0 mg/ℓ
Hardness	61 mg/ℓ	4.9 mg/ℓ
Calcium	14 mg/ℓ	2.0 mg/ℓ
Sodium	16 mg/ℓ	0.5 mg/ℓ
Potassium	4.4 mg/ℓ	0.1 mg/ℓ
Magnesium	6.4 mg/ℓ	0.2 mg/ℓ
Secchi disk	3.5 m	0.3 m
Organic nitrogen	0.46 mg/ℓ	0.11 mg/ℓ
BOD	0.8 mg/ℓ	0.6 mg/ℓ
COD	15 mg/ℓ	3 mg/ℓ
Total solids	145 mg/ℓ	21 mg/ℓ
Total phosphorus (filtered)	0.011 mg/ℓ	0.001 mg/ℓ
Total phosphorus (unfiltered)	0.013 mg/ℓ	0.003 mg/ℓ
Volatile suspended solids	0.6 mg/ℓ	0.4 mg/ℓ
Carotenoids	1.6 mg/m^3	0.8 mg/m^3

Table 4

Poststocking Data Compilation

Sampling Station 282197

Parameter	Mean Value	Standard Deviation
Temperature	22.9°C	5.8°C
Conductivity	220 μmho/cm	5 μmho/cm
Alkalinity	33 mg/ℓ	0.8 mg/ℓ
Hardness	61 mg/ℓ	3.3 mg/ℓ
Calcium	14 mg/ℓ	1.0 mg/ℓ
Sodium	17 mg/ℓ	0.5 mg/ℓ
Potassium	4.3 mg/ℓ	0.1 mg/ℓ
Magnesium	6.4 mg/ℓ	0.2 mg/ℓ
Secchi disk	3.6 m	1.2 m
Organic nitrogen	0.48 mg/ℓ	0.10 mg/ℓ
BOD	0.7 mg/ℓ	0.5 mg/ℓ
COD	16 mg/ℓ	4 mg/ℓ
Total solids	145 mg/ℓ	20 mg/ℓ
Total phosphorus (filtered)	0.011 mg/ℓ	0.001 mg/ℓ
Total phosphorus (unfiltered)	0.013 mg/ℓ	0.003 mg/ℓ
Volatile suspended solids	0.7 mg/ℓ	0.4 mg/ℓ
Carotenoids	1.5 mg/m^3	0.7 mg/m^3

Table 5

Poststocking Data Compilation

Sampling Station 210302

Parameter	Mean Value	Standard Deviation
Temperature	22.9°C	5.8°C
Conductivity	220 μmho/cm	4 μmho/cm
Alkalinity	37 mg/ℓ	0.9 mg/ℓ
Hardness	61 mg/ℓ	3.0 mg/ℓ
Calcium	14 mg/ℓ	1.2 mg/ℓ
Sodium	16 mg/ℓ	0.5 mg/ℓ
Potassium	4.0 mg/ℓ	0.1 mg/ℓ
Magnesium	6.7 mg/ℓ	0.1 mg/ℓ
Secchi disk	3.0 m	0.4 m
Organic nitrogen	0.48 mg/ℓ	0.09 mg/ℓ
BOD	0.80 mg/ℓ	0.5 mg/ℓ
COD	15 mg/ℓ	4 mg/ℓ
Total solids	145 mg/ℓ	22 mg/ℓ
Total phosphorus (filtered)	0.011 mg/ℓ	0.002 mg/ℓ
Total phosphorus (unfiltered)	0.015 mg/ℓ	0.004 mg/ℓ
Volatile suspended solids	1.1 mg/ℓ	0.4 mg/ℓ
Carotenoids	3.0 mg/m^3	1.8 mg/m^3

Table 6

Poststocking Data Compilation

Sampling Station 415312

Parameter	Mean Value	Standard Deviation
Temperature	22.6°C	5.5°C
Conductivity	220 µmho/cm	4 µmho/cm
Alkalinity	37 mg/ℓ	1.1 mg/ℓ
Hardness	61 mg/ℓ	3.4 mg/ℓ
Calcium	14 mg/ℓ	1.5 mg/ℓ
Sodium	17 mg/ℓ	0.5 mg/ℓ
Potassium	4.0 mg/ℓ	0.2 mg/ℓ
Magnesium	6.7 mg/ℓ	0.1 mg/ℓ
Secchi disk	3.6 m	1.0 m
Organic nitrogen	0.48 mg/ℓ	0.09 mg/ℓ
BOD	0.9 mg/ℓ	0.5 mg/ℓ
COD	14 mg/ℓ	3 mg/ℓ
Total solids	145 mg/ℓ	21 mg/ℓ
Total phosphorus (filtered)	0.012 mg/ℓ	0.006 mg/ℓ
Total phosphorus (unfiltered)	0.015 mg/ℓ	0.004 mg/ℓ
Volatile suspended solids	1.3 mg/ℓ	0.4 mg/ℓ
Carotenoids	3.1 mg/m^3	1.9 mg/m^3

Table 7

Poststocking Data Compilation

Sampling Station 332385

Parameter	Mean Value	Standard Deviation
Temperature	22.9°C	5.8°C
Conductivity	225 μmho/cm	5 μmho/cm
Alkalinity	37 mg/ℓ	1.0 mg/ℓ
Hardness	61 mg/ℓ	2.7 mg/ℓ
Calcium	13 mg/ℓ	1.3 mg/ℓ
Sodium	17 mg/ℓ	0.7 mg/ℓ
Potassium	4.1 mg/ℓ	0.3 mg/ℓ
Magnesium	6.7 mg/ℓ	0.3 mg/ℓ
Secchi disk	1.7 m	0.3 m
Organic nitrogen	0.53 mg/ℓ	0.16 mg/ℓ
BOD	0.8 mg/ℓ	0.5 mg/ℓ
COD	13 mg/ℓ	3 mg/ℓ
Total solids	145 mg/ℓ	21 mg/ℓ
Total phosphorus (filtered)	0.012 mg/ℓ	0.004 mg/ℓ
Total phosphorus (unfiltered)	0.015 mg/ℓ	0.004 mg/ℓ
Volatile suspended solids	1.7 mg/ℓ	0.8 mg/ℓ
Carotenoids	2.8 mg/m^3	1.7 mg/m^3

Table 8

Poststocking Data Compilation

Sampling Station 380455

Parameter	Mean Value	Standard Deviation
Temperature	22.6°C	5.6°C
Conductivity	225 μmho/cm	8 μmho/cm
Alkalinity	37 mg/ℓ	2.2 mg/ℓ
Hardness	65 mg/ℓ	6.6 mg/ℓ
Calcium	16 mg/ℓ	2.4 mg/ℓ
Sodium	16 mg/ℓ	0.7 mg/ℓ
Potassium	4.4 mg/ℓ	0.2 mg/ℓ
Magnesium	6.0 mg/ℓ	0.2 mg/ℓ
Secchi disk	1.1 m	0.2 m
Organic nitrogen	0.50 mg/ℓ	0.09 mg/ℓ
BOD	1.0 mg/ℓ	0.4 mg/ℓ
COD	15 mg/ℓ	3 mg/ℓ
Total solids	140 mg/ℓ	14 mg/ℓ
Total phosphorus (filtered)	0.015 mg/ℓ	0.004 mg/ℓ
Total phosphorus (unfiltered)	0.019 mg/ℓ	0.006 mg/ℓ
Volatile suspended solids	1.2 mg/ℓ	1.5 mg/ℓ
Carotenoids	2.3 mg/m^3	1.0 mg/m^3

Table 9

Poststocking Data Compilation

Sampling Station 415532

Parameter	Mean Value	Standard Deviation
Temperature	23.0°C	5.7°C
Conductivity	225 μmho/cm	7 μmho/cm
Alkalinity	38 mg/ℓ	1.3 mg/ℓ
Hardness	64 mg/ℓ	2.6 mg/ℓ
Calcium	16 mg/ℓ	0.9 mg/ℓ
Sodium	17 mg/ℓ	0.7 mg/ℓ
Potassium	4.4 mg/ℓ	0.2 mg/ℓ
Magnesium	6.0 mg/ℓ	0.2 mg/ℓ
Secchi disk	2.8 m	0.4 m
Organic nitrogen	0.50 mg/ℓ	0.09 mg/ℓ
BOD	0.9 mg/ℓ	0.4 mg/ℓ
COD	15 mg/ℓ	3 mg/ℓ
Total solids	140 mg/ℓ	14 mg/ℓ
Total phosphorus (filtered)	0.012 mg/ℓ	0.002 mg/ℓ
Total phosphorus (unfiltered)	0.019 mg/ℓ	0.005 mg/ℓ
Volatile suspended solids	1.1 mg/ℓ	0.9 mg/ℓ
Carotenoids	3.1 mg/m^3	1.8 mg/m^3

Table 10

Poststocking Data Compilation

Sampling Station 212495

Parameter	Mean Value	Standard Deviation
Temperature	23.3°C	5.8°C
Conductivity	230 μmho/cm	8 μmho/cm
Alkalinity	39 mg/ℓ	1.2 mg/ℓ
Hardness	64 mg/ℓ	2.3 mg/ℓ
Calcium	16 mg/ℓ	0.7 mg/ℓ
Sodium	16 mg/ℓ	0.5 mg/ℓ
Potassium	4.4 mg/ℓ	0.2 mg/ℓ
Magnesium	6.1 mg/ℓ	0.2 mg/ℓ
Secchi disk	2.8 m	0.5 m
Organic nitrogen	0.50 mg/ℓ	0.10 mg/ℓ
BOD	0.8 mg/ℓ	0.3 mg/ℓ
COD	15 mg/ℓ	4 mg/ℓ
Total solids	140 mg/ℓ	18 mg/ℓ
Total phosphorus (filtered)	0.011 mg/ℓ	0.001 mg/ℓ
Total phosphorus (unfiltered)	0.016 mg/ℓ	0.004 mg/ℓ
Volatile suspended solids	0.9 mg/ℓ	0.6 mg/ℓ
Carotenoids	3.4 mg/m^3	2.2 mg/m^3

Table 11

Poststocking Data Compilation

Sampling Station 195382

Parameter	Mean Value	Standard Deviation
Temperature	23.4°C	5.9°C
Conductivity	230 μmho/cm	5 μmho/cm
Alkalinity	40 mg/ℓ	0.8 mg/ℓ
Hardness	65 mg/ℓ	3.2 mg/ℓ
Calcium	16 mg/ℓ	1.4 mg/ℓ
Sodium	17 mg/Ω	0.5 mg/ℓ
Potassium	4.4 mg/ℓ	0.1 mg/ℓ
Magnesium	6.2 mg/ℓ	0.1 mg/ℓ
Secchi disk	2.4 m	0.2 m
Organic nitrogen	0.49 mg/ℓ	0.12 mg/ℓ
BOD	0.9 mg/ℓ	0.4 mg/ℓ
COD	15 mg/ℓ	4 mg/ℓ
Total solids	140 mg/ℓ	13 mg/ℓ
Total phosphorus (filtered)	0.013 mg/ℓ	0.004 mg/ℓ
Total phosphorus (unfiltered)	0.015 mg/ℓ	0.004 mg/ℓ
Volatile suspended solids	0.9 mg/ℓ	0.5 mg/ℓ
Carotenoids	3.2 mg/m^3	2.1 mg/m^3

Table 12

Poststocking Data Compilation

Sampling Station 157435

Parameter	Mean Value	Standard Deviation
Temperature	23.3°C	6.0°C
Conductivity	230 μmho/cm	6 μmho/cm
Alkalinity	40 mg/ℓ	1.0 mg/ℓ
Hardness	64 mg/ℓ	2.3 mg/ℓ
Calcium	16 mg/ℓ	0.9 mg/ℓ
Sodium	17 mg/ℓ	0.5 mg/ℓ
Potassium	4.4 mg/ℓ	0.1 mg/ℓ
Magnesium	6.2 mg/ℓ	0.1 mg/ℓ
Secchi disk	3.0 m	0.8 m
Organic nitrogen	0.48 mg/ℓ	0.10 mg/ℓ
BOD	0.8 mg/ℓ	0.3 mg/ℓ
COD	15 mg/ℓ	4 mg/ℓ
Total solids	145 mg/ℓ	18 mg/ℓ
Total phosphorus (filtered)	0.012 mg/ℓ	0.002 mg/ℓ
Total phosphorus (unfiltered)	0.015 mg/ℓ	0.004 mg/ℓ
Volatile suspended solids	1.0 mg/ℓ	0.6 mg/ℓ
Carotenoids	3.1 mg/m^3	2.2 mg/m^3

Table 13

Poststocking Data Compilation

Sampling Station 132497

Parameter	Mean Value	Standard Deviation
Temperature	23.5°C	5.7°C
Conductivity	275 μmho/cm	8 μmho/cm
Alkalinity	40 mg/ℓ	1.8 mg/ℓ
Hardness	80 mg/ℓ	1.9 mg/ℓ
Calcium	14 mg/ℓ	0.9 mg/ℓ
Sodium	18 mg/ℓ	0.7 mg/ℓ
Potassium	5.5 mg/ℓ	0.2 mg/ℓ
Magnesium	11.0 mg/ℓ	0.0 mg/ℓ
Secchi disk	2.0 m	0.9 m
Organic nitrogen	0.62 mg/ℓ	0.19 mg/ℓ
BOD	1.3 mg/ℓ	0.4 mg/ℓ
COD	17 mg/ℓ	6 mg/ℓ
Total solids	180 mg/ℓ	36 mg/ℓ
Total phosphorus (filtered)	0.013 mg/ℓ	0.003 mg/ℓ
Total phosphorus (unfiltered)	0.019 mg/ℓ	0.007 mg/ℓ
Volatile suspended solids	2.7 mg/ℓ	1.8 mg/ℓ
Carotenoids	8.8 mg/m^3	7.0 mg/m^3

Table 14

Poststocking Data Compilation

Lake Conway*

Parameter	Mean Value	Standard Deviation
Temperature	23.0°C	5.7°C
Conductivity	230 μmho/cm	6 μmho/cm
Alkalinity	37 mg/ℓ	1.2 mg/ℓ
Hardness	64 mg/ℓ	3.3 mg/ℓ
Calcium	15 mg/ℓ	1.3 mg/ℓ
Sodium	17 mg/ℓ	0.6 mg/ℓ
Potassium	4.4 mg/ℓ	0.2 mg/ℓ
Magnesium	6.8 mg/ℓ	0.2 mg/ℓ
Secchi disk	2.7 m	0.6 m
Organic nitrogen	0.50 mg/ℓ	0.11 mg/ℓ
BOD	0.9 mg/ℓ	0.4 mg/ℓ
COD	15 mg/ℓ	4 mg/ℓ
Total solids	145 mg/ℓ	20 mg/ℓ
Total phosphorus (filtered)	0.012 mg/ℓ	0.003 mg/ℓ
Total phosphorus (unfiltered)	0.016 mg/ℓ	0.004 mg/ℓ
Volatile suspended solids	1.2 mg/ℓ	0.8 mg/ℓ
Carotenoids	3.3 mg/m^3	2.1 mg/m^3

* Based on data collected at all 11 sampling stations.

Table 15

Poststocking Data Compilation

Dissolved Oxygen, mg/ℓ

Station No.	Surface $\bar{X}$	Surface SD	Middepth $\bar{X}$	Middepth SD	Bottom $\bar{X}$	Bottom SD
400117	8.7	1.0	8.5	1.0	8.2	1.2
282197	8.6	1.0	ID	ID	7.5	2.1
210302	8.7	1.1	ID	ID	8.3	1.2
415312	8.8	0.9	8.5	1.1	7.8	1.7
332385	8.8	1.1	ND	ND	ND	ND
380455	7.7	1.6	ND	ND	ND	ND
415532	8.4	1.0	ID	ID	7.7	1.0
212495	8.5	0.9	ID	ID	8.1	1.1
195382	8.6	0.9	ND	ND	8.2	1.2
157435	8.6	0.9	ID	ID	7.6	2.3
132497	8.8	0.8	8.0	1.5	6.0	2.0

Note: ID denotes insufficient data and ND denotes no data.

Table 16

Poststocking Data Compilation, pH

Station No.	Surface $\bar{X}$	Surface SD	Middepth $\bar{X}$	Middepth SD	Bottom $\bar{X}$	Bottom SD
400117	7.5	0.2	7.4	0.2	7.3	0.2
282197	7.4	0.2	ID	ID	7.2	0.3
210302	7.6	0.4	ID	ID	7.5	0.3
415312	7.7	0.4	7.5	0.5	7.3	0.3
332385	7.6	0.4	ND	ND	ND	ND
380455	7.3	0.3	ND	ND	ND	ND
415532	7.5	0.3	ID	ID	7.3	0.3
212495	7.6	0.4	ID	ID	7.6	0.5
195382	7.7	0.3	ND	ND	7.6	0.4
157435	7.7	0.4	ID	ID	7.6	0.6
132497	7.9	0.5	7.6	0.6	7.2	0.6

Note: ID denotes insufficient data and ND denotes no data.

Table 17

Poststocking Data Compilation

Turbidity, FTU*

Station No.	Surface		Middepth		Bottom	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
400117	0.9	0.3	0.8	0.3	0.9	0.3
282197	0.8	0.2	ID	ID	0.8	0.2
210302	1.0	0.3	ID	ID	1.1	0.4
415312	1.0	0.3	0.9	0.3	1.0	0.3
332385	1.0	0.3	ND	ND	ND	ND
380455	1.1	0.4	ND	ND	ND	ND
415532	1.1	0.4	ID	ID	1.2	0.4
212495	1.1	0.5	ID	ID	1.1	0.4
195382	1.1	0.4	ND	ND	1.1	0.4
157435	1.0	0.4	ID	ID	1.1	0.4
132497	2.6	1.4	2.6	1.4	2.3	1.2

Note: ID denotes insufficient data and ND denotes no data.
* FTU = Formazin Turbidity Units.

Table 18

Poststocking Data Compilation

Chlorophyll-a, mg/m^3

Station No.	Surface $\bar{X}$	Surface SD	Middepth $\bar{X}$	Middepth SD	Bottom $\bar{X}$	Bottom SD
40017	2.6	0.9	2.6	0.8	2.8	1.3
282197	2.4	0.8	ID	ID	2.6	1.3
210302	4.2	1.8	ID	ID	4.5	1.9
415312	4.5	2.0	4.4	1.9	4.9	2.6
332385	4.0	1.9	ND	ND	ND	ND
380455	4.4	1.7	ND	ND	ND	ND
415532	5.0	2.3	ID	ID	5.1	2.2
212495	5.4	2.6	ID	ID	5.2	2.6
195382	5.0	2.4	ND	ND	4.9	2.0
157435	4.9	2.6	ID	ID	4.7	2.4
132497	13.3	9.5	14.7	12.1	13.6	11.0

Note: ID denotes insufficient data and ND denotes no data.

Table 19

Poststocking Data Presentation

Sediment Quality

Date	Station No.	Total Nitrogen mg/g	Total PO_4-P mg/g	Cu µg/g	Pb µg/g	COD mg/g	Fe µg/g	Mn µg/g
1-18-78	400117	2.1	0.34	19	37	54	660	11
7-20-78	400117	0.4	0.41	13	17	48	420	--
1-18-78	282197	1.1	0.20	5	17	16	225	5
7-20-78	282197	1.5	0.25	12	12	34	420	--
1-18-78	210302	9.4	0.68	110	150	250	2600	31
7-20-78	210302	1.9	0.13	29	9	68	470	--
1-18-78	415312	3.0	0.37	10	17	62	640	9
7-20-78	415312	3.0	0.59	36	16	88	490	--
1-18-78	332385	3.2	0.88	8	6	52	980	10
7-20-78	332385	1.8	0.38	10	8	61	540	--
1-18-78	380455	3.0	0.50	30	6	48	640	6
7-20-78	380455	8.0	0.50	36	16	225	1360	--
1-18-78	415532	8.2	0.77	140	20	290	1700	--
7-20-78	415532	2.8	0.18	52	15	116	830	--
1-18-78	212495	0.9	0.34	7	6	21	445	5
7-20-78	212495	0.5	0.15	6	7	20	230	--
1-18-78	195382	1.2	0.29	11	20	35	385	5
7-20-78	195382	3.0	0.20	30	22	88	530	--
1-18-78	157435	13	0.43	190	150	430	3240	57
7-20-78	157435	--	0.16	10	15	7	220	--
1-18-78	132497	1.0	0.19	8	6	20	435	66
7-20-78	132497	0.3	0.11	22	35	48	480	--

Table 20

Poststocking Data Compilation

Sediment Quality

Parameter	Mean Value	Standard Deviation	Range
Total nitrogen, mg/g	3.3	3.4	0.3 to 13.0
Total phosphorus, mg/g	0.37	0.21	0.11 to 0.88
Copper, μg/g	36	48	5 to 190
Lead, μg/g	28	40	6 to 150
COD, mg/g	95	108	7 to 430
Iron, μg/g	817	773	220 to 3240
Manganese, μg/g	23	23	5 to 66

Table 21

Poststocking Data Presentation

Aquatic Plant Content, mg/g

Date	Station No.	Plant Species	Percent Water	COD*	PO_4-P	N	Cu**
10-17-77	400117	Nitella	--	--	1.6	31	30
1-18-78	400117	Nitella	97	1100	2.1	21	93
4-19-78	400117	Nitella	96	1200	1.1	24	52
7-20-78	400117	Nitella	--	1069	1.4	28	134
10-17-77	282197	Hydrilla	--	--	2.1	30	15
10-17-77	282197	Potamogeton	--	--	0.8	13	18
10-17-77	282197	Nitella	--	--	1.5	33	36
1-18-78	282197	Potamogeton	94	1300	1.6	8	36
1-18-78	282197	Nitella	97	1000	1.4	18	39
1-18-78	282197	Hydrilla	97	1000	2.0	18	12
4-19-78	282197	Nitella	--	1100	0.9	16	32
4-19-78	282197	Potamogeton	--	1300	1.8	19	20
4-19-78	282197	Hydrilla	--	1400	2.7	17	31
7-20-78	282197	Potamogeton	--	1142	0.9	17	25
10-17-77	210302	Nitella	--	--	1.4	31	27
1-18-78	210302	Nitella	97	1200	1.6	22	87
4-19-78	210302	Nitella	96	1300	1.0	23	42
7-20-78	210302	Nitella	--	952	1.3	22	46
10-17-77	415312	Coontail	--	--	0.9	23	16
10-17-77	415312	Nitella	--	--	1.2	27	23
1-18-78	415312	Coontail	93	1100	0.7	13	18
1-18-78	415312	Nitella	97	1000	1.6	19	51
4-19-78	415312	Nitella	96	1200	1.1	25	38
4-19-78	415312	Coontail	90	1300	1.2	19	24
7-20-78	415312	Nitella	--	952	1.6	21	54
10-17-77	332385	Nitella	--	--	1.1	16	14
1-18-78	332385	Nitella	96	1000	1.0	15	59
1-18-78	332385	Potamogeton	94	1300	1.5	12	27
4-19-78	332385	Potamogeton	87	1200	1.4	12	28
4-19-78	332385	Nitella	96	1200	0.9	15	68
7-20-78	332385	Nitella	--	981	1.4	29	40
7-20-78	332385	Potamogeton	--	1106	1.3	19	13
10-17-77	380455	Nitella	--	--	1.4	31	38
1-18-78	380455	Potamogeton	94	1300	1.2	6	18
1-18-78	380455	Nitella	96	1000	1.5	15	50

(Continued)

* Total organic carbon analyses discontinued subsequent to 10-17-77 sampling date.

** Values reported as μg/g.

Table 21 (Concluded)

Date	Station No.	Plant Species	Percent Water	COD	PO_4-P	N	Cu
4-19-78	380455	Nitella	79	1200	1.0	9	46
4-19-78	380455	Potamogeton	91	1200	1.6	11	22
7-20-78	380455	Nitella	--	937	0.8	20	25
10-17-77	415532	No plants recovered from station					
1-18-78	415532	Hydrilla	96	900	2.3	16	52
4-19-78	415532	Hydrilla	71	990	2.4	5	14
7-20-78	415532	Hydrilla	--	981	1.2	20	33
10-17-77	212495	No plants recovered from station					
1-18-78	212495	Hydrilla	96	1100	2.1	16	22
4-19-78	212495	Hydrilla	--	1200	1.7	8	46
7-20-78	212495	Hydrilla	--	1011	0.9	15	11
10-17-77	195382	Nitella	--	--	1.1	28	31
1-18-78	195382	Nitella	96	1200	1.2	14	44
4-19-78	195382	Nitella	97	1100	1.5	18	36
7-20-78	195382	Potamogeton	--	1208	0.9	17	22
7-20-78	195382	Nitella	--	1025	0.9	18	36
10-17-77	157435	Hydrilla	--	--	1.4	16	16
1-18-78	157435	Hydrilla	97	1200	1.5	14	14
1-18-78	157435	Eelgrass	94	980	1.3	15	14
1-18-78	157435	Nitella	96	1000	1.4	21	54
4-19-78	157435	Eelgrass	96	1200	1.4	10	14
4-19-78	157435	Hydrilla	95	1300	1.8	9	13
4-19-78	157435	Nitella	97	1100	1.7	11	45
7-20-78	157435	Nitella	--	981	1.9	18	36
10-17-77	132497	No plants recovered from station					
1-18-78	132497	No plants recovered from station					
4-19-78	132497	No plants recovered from station					
7-20-78	132497	Pithophora	--	851	0.9	27	93

In accordance with letter from DAEN-RDC, DAEN-ASI dated 22 July 1977, Subject: Facsimile Catalog Cards for Laboratory Technical Publications, a facsimile catalog card in Library of Congress MARC format is reproduced below.

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Miller, H. Douglas
Large-scale operations management test of use : ... 1982.
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